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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/624,026	07/21/2003	Alexis P. Malozemoff	05770-198001 / AMSC-665	5102
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FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022				SEMENENKO, YURIY
		ART UNIT		PAPER NUMBER
		2841		

DATE MAILED: 08/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SFR

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/624,026	MALOZEMOFF ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Yuriy Semenenko	2841	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 22 July 2005.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-65 is/are pending in the application.  
 4a) Of the above claim(s) 31-37, 53-56 and 60 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-30, 38-52, 57-59 and 61-65 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 21 July 2003 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>pages 5</u> | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Election/Restrictions***

1. 1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-30, 38-52, 57-59, 61-65, drawn to a superconducting device, classified in class 174 subclass 125.1.
  - II. Claims 31-37, drawn to a method of splicing superconducting devices, classified in class 29 subclass 825.
  - III. Claims 53-56, drawn to a method of cutting a superconducting devices, classified in class 29 subclass 825.
  - IV. Claims 60, drawn to a method of joining superconducting devices, classified in class 29 subclass 825.

1.2. The inventions are distinct, each from the other because of the following reasons: Inventions groups II, III, IV and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the process (or method) as claimed can make another and materially different product. For example, the process can be useful for tape-shaped devices.

1.3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, and the search required for Group II, III and IV is not required for Group I, restriction for examination purposes as indicated is proper.

1.4. During a telephone conversation with T. Nguyen (Reg. No. 42,934), on July 22, 2005, a provisional election was made with traverse to prosecute the invention of group I, Claims 1-30, 38-52, 57-59, 61-65, drawn to a superconducting device.

Affirmation of this election must be made by applicant in replying to this Office action. Claims 31-37, 53-56 and 60 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-10, 12-13, 18, 19, 21, 24, 26-30, 38, 46, 61-65 are rejected under 35 U.S.C. 102(b) as being anticipated by S. Fleshler et al. (Patent # WO 01/08233) hereinafter Fleshler.

2.1. Regarding claims 1, 61: Fleshler discloses in Fig. 1 a superconducting device 10 comprising: a first coated superconductor (a first article) 11a, comprising: a first superconductor layer 16a; and a first metal layer 18a supported by the first superconductor layer 16a; and a second coated superconductor (a second article) 11b releasably bonded to the first metal layer; wherein heating the superconducting device 10 to at least about a predetermined temperature releases the first metal layer 18a from the second coated superconductor 11b without releasing the first metal layer 18a from the first superconductor layer 11a ( page 32, lines 9-16), wherein the first article is joined to the second article along a stepped interface , Fig. 2.

2.2. Regarding claims 2 and 3: Fleshler discloses in Fig. 1 the superconducting device of claim 1, wherein a critical current density of the first and second coated superconductor remain substantially unchanged after heating the superconducting device to at least about the predetermined temperature. Considering predetermined temperature as temperature releases the first superconductor layer 11a from the second coated superconductor 11b ( i. e. soldering) a

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critical current density of the first coated superconductor will remain substantially unchanged after heating the superconducting device.

2.3. Regarding claim 4: Fleshler discloses in Fig. 1 the superconducting device 10 of claim 1, wherein the first coated superconductor 11a comprises: a first non-superconductor layer 12a supporting the first superconductor layer 16a; and the second coated superconductor 11b comprises: a second non-superconductor layer 12b; a second superconductor layer supported by the second non-superconductor layer; and a second metal layer 18b supported by the second superconductor layer 16b.

2.4. Regarding claims 5, 6: Fleshler discloses in Fig. 1 the superconducting device 10 of claim 4, wherein the first metal layer 18a is bonded to the first superconductor layer 16a with an electrically conducting bond (page 32, lines 6-16).

2.5. Regarding claim 7: Fleshler discloses in Fig. 1 the superconducting device 10 of claim 1, wherein the first metal layer 18a is bonded to the first superconductor layer 16a using a method selected from a group consisting of vapor deposition, sonically bonding, and thermally bonding (page 32, lines 9-16).

2.6. Regarding claims 8, 62, 63: Fleshler discloses in Fig. 1 the superconducting device 10 of claim 4 (52, 61) wherein each of the first and second metal layers 18 comprise multiple layers (page 32, lines 7-8).

2.7. Regarding claim 9: Fleshler discloses in Fig. 1 the superconducting device 10 of claim 8, wherein a first layer of the multiple layers comprises silver (metal) and a second layer of the multiple layers comprises copper (metal) (page 32, lines 1-9).

2.8. Regarding claim 10: Fleshler discloses in Fig. 1 the superconducting device 10 of claim 9, wherein the multiple layers are thermally bonded to each other (page 32, lines 9-16).

2.9. Regarding claim 12: Fleshler discloses in Fig. 1 the superconducting device 10 of claim 9, wherein the multiple layers are bonded to each other with a first solder (page 32, lines 9-16).

2.10. Regarding claim 13: Fleshler discloses in Fig. 1 the superconducting device 10 of claim 12, wherein the first metal layer 18a of the first coated superconductor 11a and the second metal layer 18b of the second coated superconductor 11b are releasably bonded to each other with a second solder 20 (page 32, lines 9-16).

2.11. Regarding claims 18, 19: Fleshler discloses in Fig. 1 the superconducting device 10 of claim 4, wherein the first non-superconductor layer 12a comprises a substrate 12a, wherein the substrate is a nickel alloy (page 7, lines 18-29).

2.12. Regarding claim 21: Fleshler discloses in Fig. 1 the superconducting device 10 of claim 18, wherein at least one buffer layer 14a is deposited on the substrate 12a (page 31, lines 10-11).

2.13. Regarding claims 24 and 26: Fleshler discloses in Fig. 1 the superconducting device 10 of claim 4, wherein the first superconducting layer 16a comprises  $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$  where x is a number greater than 0 but less than 1 (page 40, claim 15).

2.14. Regarding claim 27: Fleshler discloses in Fig. 1 the superconducting device 10 comprising: a first coated superconductor 16a; and a second coated superconductor 16b releasably bonded to the first coated superconductor; wherein subjecting the superconducting device to a solution formulated to dissolve a bond between the first and second coated superconductors releases the first coated superconductor from the second coated superconductor (page 32, lines 9-16).

2.15. Regarding claims 28 and 29: Fleshler discloses in Fig. 1 the superconducting device 10 of claim 28, wherein a critical current density of the first (second) coated superconductor remains substantially unchanged after subjecting the superconducting device to the solution.

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2.16. Regarding claim 30: Fleshler discloses in Fig. 1 the superconducting device 10 of claim 29, wherein the second coated superconductor is releasably bonded to the first coated superconductor with a metallic paste (page 32, line 9-16).

2.1.17. Regarding claim 38: Fleshler discloses the superconducting device 10, comprising: a first coated superconductor 11a; a second coated superconductor 11b, the second coated superconductor being bonded to the first coated superconductor in a first region 30 (Fig. 4) of the superconducting device, the second coated superconductor being unbonded to the first coated superconductor in a second region 30 (Fig. 4) of the superconducting device; and an electrically conducting element 70 (Fig. 4a) disposed in the second region and in electrical communication with the first and second coated superconductors.]

2.1.18. Regarding claim 39: Fleshler discloses the superconducting device of claim 38, wherein the second coated superconductor is releasably bonded to the first coated superconductor in the first region 30 (Fig. 4).

2.1.19. Regarding claims 40, 41, 46: Fleshler discloses the superconducting device of claim 38 (45), wherein the electrically conducting element comprises metal (copper) (page 34, lines 1-5).

2.1.20. Regarding claim 42: Fleshler discloses the superconducting device of claim 38, wherein the electrically conducting element comprises a superconducting article (page 35, lines 5-7).

2.1.21. Regarding claims 64, 65: Fleshler discloses in Fig. 1 the superconducting device of claim 63, further comprising a first non-superconducting layer 12a bonded to the first coated superconductor 11a and The superconducting device of claim 63, further comprising a second non-superconducting layer 12b bonded to the second coated superconductor 11b (page 32, lines 9-16).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness. Fleshler discloses

3.1. Claim 22 is rejected under 35U.S.C. 103(a) as being obvious over Fleshler in view of Y. Yamada et al. (Patent # 5935911) hereafter Yamada.

3.1.1. Regarding claim 22: Fleshler discloses in Fig. 1 the superconducting device, having all of the claimed features as discussed above with respect claim 4,

except Fleshler doesn't explicitly teach the first superconducting layer comprises a high temperature superconductor which comprises a rare earth oxide and which has a transition temperature above about 30 Kelvin (column 1, line 16-39).

Yamada discloses in the "Background of the invention" section, at the time the invention was made, it was well known a high temperature superconductor which comprises a rare earth oxide and which has a transition temperature above about 30 Kelvin (column 1, line 16-39).

Therefore it would have been obvious to one of ordinary skill in the art, at time the invention was made for Fleshler to include in his invention the first superconducting layer comprises a high temperature superconductor which comprises a rare earth oxide and which has a transition temperature above about 30 Kelvin.

Benefit of doing so is that such superconductors can be used at temperature above temperature of liquid hydrogen ( 20 <sup>0</sup>K ).

3.2. Claims 20, 25 are rejected under 35U.S.C. 103(a) as being obvious over Fleshler in view of A.Goyal et al. (Patent.# 2004/0250651) hereafter Goyal.

3.2.1. Regarding claim 20: Fleshler discloses the superconducting device, having all of the claimed features as discussed above with respect claim 19,

except Fleshler doesn't explicitly teach the nickel alloy comprises Ni-W.

Goyal teaches the nickel alloy comprises Ni-W ( page 2, [0035-[0037]]). Therefore, at time the invention was made, it was well known the nickel alloy comprises Ni-W.

Therefore it would have been obvious to one of ordinary skill in the art, at time the invention was made for Fleshler to include in his invention the nickel alloy comprises Ni-W.

Benefit of doing so is that such allow has less magnetism than pure Ni.

3.2.2. Regarding claim 25: Fleshler discloses the superconducting device, having all of the claimed features as discussed above with respect claim 4, wherein the first superconducting layer comprises  $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ .

except Fleshler doesn't explicitly teach the first superconducting layer comprises  $\text{YBa}_2\text{Cu}_3\text{O}_7$ .

Goyal recited reference (page 2 [0018]) --D. Dimos et al., "Superconducting Transport Properties of Grain Boundaries in Y<sub>1</sub>Ba<sub>2</sub>Cu<sub>3</sub>O<sub>7</sub> Bicrystals", Physical Review B, 41 (1990) 4038 which teaches  $\text{YBa}_2\text{Cu}_3\text{O}_7$ . Therefore, at time the invention was made, it was well known how to create  $\text{YBa}_2\text{Cu}_3\text{O}_7$ .

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Therefore it would have been obvious to one of ordinary skill in the art, at time the invention was made for Fleshler to include in his invention the first superconducting layer comprises  $\text{YBa}_2\text{Cu}_3\text{O}_7$ .

Benefit of doing so is provide possibility to use of stoichiometric compound.

3.3. Claim 11 is rejected under 35U.S.C. 103(a) as being obvious over Fleshler in view of P. Critchlow et al. (Patent # 3829964) hereafter Critchlow.

3.3.1. Regarding claim 11: Fleshler discloses the superconducting device, having all of the claimed features as discussed above with respect claim 9,

except Fleshler doesn't explicitly teach the multiple layers are sonically bonded to each other.

Critchlow teaches the multiple layers are sonically bonded to each other (column 4, lines 38-39). Therefore, at time the invention was made, it was well known how the multiple layers are sonically bonded to each other

Therefore it would have been obvious to one of ordinary skill in the art, at time the invention was made for Fleshler to include in his invention the multiple layers are sonically bonded to each other.

Benefit of doing so is to prevent any changes in structure of the superconducting device.

3.4. Claims 14-17, 43-45, 47-52, 57-59 are rejected under 35U.S.C. 103(a) as being obvious over Fleshler in view of D. Buzcek et al. (Patent # 6159905) hereafter Buzcek.

3.4.1. Regarding claims 14-17: Fleshler discloses the superconducting device, having all of the claimed features as discussed above with respect claim 13,

except Fleshler doesn't explicitly teach a melting temperature of the second solder is at least about  $5^\circ\text{C}$  ( $10^\circ\text{C}$ ,  $15^\circ\text{C}$ ,  $25^\circ\text{C}$ ) lower than a melting temperature of the first solder.

Buzcek teaches a melting temperature of the second solder is at least about  $5^\circ\text{C}$  ( $10^\circ\text{C}$ ,  $15^\circ\text{C}$ ,  $25^\circ\text{C}$ ) lower than a melting temperature of the first solder. Therefore, at time the invention

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was made, it was well known how to make a melting temperature of the second solder is at least about 5°C (10°C, 15°C, 25°C) lower than a melting temperature of the first solder (column 3, lines 10-13).

Therefore it would have been obvious to one of ordinary skill in the art, at time the invention was made for Fleshler to include in his invention a melting temperature of the second solder is at least about 5°C (10°C, 15°C, 25°C) lower than a melting temperature of the first solder.

Benefit of doing so is to easily release the first layer from the second layer.

3.4.2. Regarding claim 43: Fleshler discloses the superconducting device 10 having all of the claimed features as discussed above with respect to claim 38, and an electrically conducting element 70 (Fig. 4) disposed in the second region and in electrical communication with the first and second coated superconductors,

except Fleshler doesn't explicitly teach the electrically conducting element has a cross-sectional shape selected from the group consisting of triangle, diamond, square, rectangle, hexagon, trapezoid, and any combination thereof.

Buzcek teaches the electrically conducting element 12 (Fig. 2c0) has a cross-sectional shape selected from the group consisting of triangle, diamond, square, rectangle, hexagon, trapezoid, and any combination thereof (column 6, lines 18-21). Therefore, at time the invention was made, it was well known to make the electrically conducting element having a cross-sectional shape selected from the group consisting of triangle, diamond, square, rectangle, hexagon, trapezoid, and any combination thereof.

Therefore it would have been obvious to one of ordinary skill in the art, at time the invention was made for Fleshler to include in his invention the electrically conducting element has a cross-sectional shape selected from the group consisting of triangle, diamond, square, rectangle, hexagon, trapezoid, and any combination thereof.

Benefit of doing so is to minimize critical current degradation.

3.4.3. Regarding claim 44: Fleshler discloses the superconducting device having all of the claimed features as discussed above with respect claim 38, further comprising bonding region (Fig. 2b),

except Fleshler doesn't explicitly teach a third coated superconductor; and a fourth coated superconductor, the fourth coated superconductor being bonded to the third coated superconductor in a third region of the superconducting device, the fourth coated superconductor being unbonded to the third coated superconductor in the second region of the superconducting device.

Buzcek teaches a third coated superconductor; and a fourth coated superconductor, the fourth coated superconductor being bonded to the third coated superconductor in a third region of the superconducting device, the fourth coated superconductor being unbonded to the third coated superconductor in the second region of the superconducting device (column 7, lines 28-32). Therefore, at time the invention was made, it was well known to make a third coated superconductor; and a fourth coated superconductor, the fourth coated superconductor being bonded to the third coated superconductor

Therefore it would have been obvious to one of ordinary skill in the art, at time the invention was made for Fleshler to include in his invention a third coated superconductor; and a fourth coated superconductor, the fourth coated superconductor being bonded to the third coated superconductor in a third region of the superconducting device, the fourth coated superconductor being unbonded to the third coated superconductor in the second region of the superconducting device.

Benefit of doing so is to minimizing critical current degradation when two or more coated superconductor tapes are jointed, as Buzcek taught.

3.4.4. Regarding claim 45: And further, Fleshler, as modified, discloses the superconducting device , device having all of the claimed features as discussed above with respect claim 44, wherein the electrically conducting element is in electrical communication with the third and fourth coated superconductors in the second region (Page 35, lines 5-11).

3.4.5. Regarding claim 50: And furthermore, Fleshler, as modified, discloses the superconducting device , device having all of the claimed features as discussed above with respect claim 45, wherein the electrically conducting element comprises: a metal element metal (page 34, lines 1-5); and at least one superconducting article (page 35, lines 5-7). in electrical communication with the metal element.

3.4.6. Regarding claims 51, 52: And further, Fleshler, as modified, discloses the superconducting device , device having all of the claimed features as discussed above with respect claim 50, wherein the at least one superconducting article is in electrical communication with the first and third coated superconductors and wherein the at least one superconducting article is in electrical communication with the second and fourth coated superconductors (page 35, lines 5-7).

3.4.7. Regarding claims 47, 48, 49: And further, Fleshler, as modified, discloses the superconducting device , device having all of the claimed features as discussed above with respect claim 45. Although Fleshler doesn't explicitly teach the first coated superconductor is in contact with the third coated superconductor in the second region and the second coated superconductor is in contact with the fourth coated superconductor in the second region and in the second region the first coated superconductor has a greater length than the second coated superconductor, he teaches on page 34, lines 15-23 [The path segments in the superconducting layer surface are in the electrically conductive communication with interlayer connections, which serve to allow current to flow from one superconducting layer to another. Therefore it would have been obvious to one of ordinary skill in the art, at time the invention was made for Fleshler to include in his invention the first coated superconductor is in contact with the third coated superconductor in the second region and the second coated superconductor is in contact with the fourth coated superconductor in the second region and in the second region the first coated superconductor has a greater length than the second coated superconductor,

Benefit of doing so is to minimize critical current degradation when coated superconductor tapes are jointed.

Further, it has been held In reKerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980).

3.4.8. Regarding claims 57, 59: Fleshler discloses in Fig. 1 the superconducting device 10 comprising: a first coated superconductor 11a; a second coated superconductor 11b, wherein c paste releasable bonds the first coated superconductor bond to the second coated superconductor to form an interface therebetween.

except Fleshler doesn't explicitly teach a metallic paste (silver paste) releasable bonds coated superconductors.

Buzcek teaches a metallic paste (silver paste) releasable bonds coated superconductors (column 4, lines 64-66). Therefore, at time the invention was made, it was well know metallic paste (silver paste) which releasable bonds coated superconductors.

Therefore it would have been obvious to one of ordinary skill in the art, at time the invention was made for Fleshler to include in his invention a metallic paste (silver paste) releasable bonds coated superconductors.

Benefit of doing so is to minimizing critical current degradation when two or more coated superconductor tapes are jointed, as Buzcek tough.

3.4.9. Regarding claim 58: Fleshler, as modified, discloses the superconducting device , having all of the claimed features as discussed above with respect claim 57.

except Fleshler doesn't explicitly teach a critical current density of each of the first and second coated superconductors remains substantially unchanged after peeling a portion of the first superconductor away from the interface.

Buzcek teaches a critical current density of each of the first and second coated superconductors remains substantially unchanged after peeling a portion of the first superconductor away from the interface ( column 5, lines 19-45). Therefore, at time the invention was made, it was well know teaches a critical current density of each of the first and second coated superconductors remains substantially unchanged after peeling a portion of the first superconductor away from the interface.

Therefore it would have been obvious to one of ordinary skill in the art, at time the invention was made for Fleshler to include in his invention teaches a critical current density of each of the first and second coated superconductors remains substantially unchanged after peeling a portion of the first superconductor away from the interface

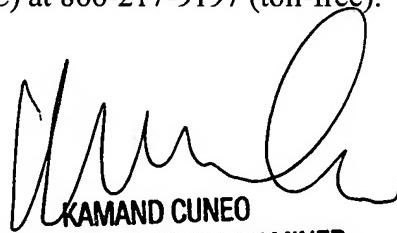
Benefit of doing so is to minimizing critical current degradation when two or more coated superconductor tapes are jointed.

4.1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yuriy Semenenko whose telephone number is (571) 272-6106. The examiner can normally be reached on 8:30am - 5:00pm.

4.2. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (571)- 272-1957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

4.3. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YS



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